



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,774	03/31/2004	Mun-Choon Chan	Chan 5-1-22-5-29	5203
46850	7590	04/21/2006	EXAMINER	
MENDELSON & ASSOCIATES, P.C. 1500 JOHN F. KENNEDY BLVD., SUITE 405 PHILADELPHIA, PA 19102			WENDELL, ANDREW	
			ART UNIT	PAPER NUMBER

2618

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,774	Applicant(s) CHAN ET AL.	
	Examiner Andrew Wendell	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashem et al. (US Pat# 6,748,222) in view of Agin (US Pat Appl# 2002/0119784) and further in view of 3rd Generation Partnership Project (<http://www.soulinfo.com/~hugang/3gpp/specs/25413-320.pdf>, copyright 2000).

Regarding claim 9, Hashem et al. system for providing load-balanced communication teaches means for monitoring for a message of a connection between a user element and a network Step S116 (Fig. 7); means for determining whether the message is a call set-up message S116 (Fig. 7) or an allocation message S118 and S120 (Fig. 7); means for allocating if the message is a call set-up message (Communication initialization, Col. 9 lines 56-63), one of the processors to the connection in accordance with a load balancing algorithm (Col. 2 lines 35-62 and Col. 5 line 62-Col. 7 line 6). Hashem fails to teach about spreading codes to the connection with the same spreading factor.

Agin's managing processing resources in a mobile radio system teaches if the message is an allocation message, a set of spreading codes to the connection with the same spreading factor (Section 0026 and 0190).

Art Unit: 2618

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate spreading codes to the connection with the same spreading factor as taught by Agin into Hashem et al. system for providing load-balanced communication in order to save costs in adding more base stations and prevent quality being decreased (Section 0012 and 0014).

Hashem and Agin fail to teach means for determining whether the message is a call set-up message or an allocation message.

3rd Generation Partnership Project technical specification teaches means for determining whether the message is a call set-up message or an allocation message (pages 17-20). Note, this teaches that the base station will determine the call set-up message or based on the priority level of requested radio access bearer a decision on resource allocation.

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate means for determining whether the message is a call set-up message or an allocation message as taught by 3rd Generation Partnership Project into spreading codes to the connection with the same spreading factor as taught by Hashem et al. in view of Agin system for providing load-balanced communication in order to modify or release established connections or establish new connections in the base station (Page 16).

Art Unit: 2618

Regarding claim 10, computer-readable medium claim 10 is rejected for the same reason as apparatus claim 9 since the recited elements would perform the claimed steps.

Regarding claim 1, method claim 1 is rejected for the same reason as apparatus claim 9 since the recited elements would perform the claimed steps.

Regarding claim 2, the combination of Hashem et al. teaches providing, by the one of the processors, a call-processing application to the connection (Col. 2 lines 35-62 and Col. 5 line 62-Col. 7 line 6).

Regarding claim 3, the combination of Hashem et al. teaches the step of measuring a utilization of each of the processors (Col. 2 lines 35-62 and Col. 5 line 62-Col. 7 line 6).

Regarding claim 5, the combination of Agin teaches determining the set of spreading codes with the same spreading factor (Section 0076 and 0190).

Regarding claim 6, the combination of Agin teaches the set of spreading codes depends on the number of legs for soft-handover/soft-handoff of the connection (Section 0050).

Regarding claim 7, the combination of Agin teaches the message of the connection is of a network operating in accordance with Universal Mobile Telecommunications Systems network standard (Section 0002).

Regarding claim 8, the combination of Agin teaches wherein the method is implemented in a processor of a radio network controller (Section 0010).

Art Unit: 2618

3. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashem et al. (US Pat# 6,748,222) in view of Agin (US Pat Appl# 2002/0119784) and further in view of 3rd Generation Partnership Project (<http://www.soulinfo.com/~hugang/3gpp/specs/25413-320.pdf>, copyright 2000) and further in view of Lachtar et al. (US Pat Appl# 2003/0125039).

Regarding claim 4, Hashem et al. system for providing load-balanced communication in view of Agin's managing processing resources in a mobile radio system and further in view of 3rd Generation Partnership Project technical specification teaches the limitations in claims 1 and 3. Hashem et al., Agin, and 3rd Generation Partnership Project fails to teach one of the processors based on a call-context amount per CPU load-balancing algorithm.

Lachtar et al. multi-carrier traffic allocation enhancements teaches one of the processors based on a call-context amount per CPU load-balancing algorithm (Figs. 8A-8D).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate one of the processors based on a call-context amount per CPU load-balancing algorithm as taught by Lachtar et al. into means for determining whether the message is a call set-up message or an allocation message as taught by 3rd Generation Partnership Project into spreading codes to the connection with the same spreading factor as taught by Hashem et al. in view of Agin system for providing load-balanced communication in order to

Art Unit: 2618

reduce access failures and pooling of co-located carriers in the frequency bands (Section 0008).

Regarding claim 11, Lachtar et al. further teaches determining an average number of calls per processor 804 and 806 (Fig. 8A, Sections 0031, 0032 and 0041; NEC is explained further by Sharma et al. (US Pat# 6,069,871) Col. 8 lines 34-59); weighting the average number of calls per processor by a total call capacity of the processor (Sections 0031, 0032 and 0041 and Sharma et al. reference); and selecting the processor with the smallest weighted call average 850 (Fig. 8D, the highest NEC value means it has the most capacity and therefore it would have the smallest weighted call average).

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashem et al. (US Pat# 6,748,222) in view of Agin (US Pat Appl# 2002/0119784) and further in view of 3rd Generation Partnership Project (<http://www.soulinfo.com/~hugang/3gpp/specs/25413-320.pdf>, copyright 2000) and further in view of Liang (US Pat Appl# 2003/0072282).

Regarding claim 6, Hashem et al. system for providing load-balanced communication in view of Agin's managing processing resources in a mobile radio system and further in view of 3rd Generation Partnership Project technical specification teaches the limitations in claims 1 and 3. Hashem et al., Agin, and 3rd Generation Partnership Project fails to teach spreading codes dependent on number of legs for soft-handover/soft-handoff connection.

Liang's code division multiple access downlink receiver teaches wherein the set of spreading codes depends on the number of legs for soft-handover/soft-handoff of the connection (Section 0098).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate spreading codes dependent on number of legs for soft-handover/soft-handoff connection as taught by Liang into means for determining whether the message is a call set-up message or an allocation message as taught by 3rd Generation Partnership Project into spreading codes to the connection with the same spreading factor as taught by Hashem et al. in view of Agin system for providing load-balanced communication in order to achieve power savings, capacity enhancement, and throughput increment for CDMA downlink transmission (Section 0021).

5. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lachtar et al. (US Pat Appl# 2003/0125039) in view of Sharma et al. (US Pat# 6,069,871).

Regarding claim 12, Lachtar et al. multi-carrier traffic allocation enhancements teaches monitoring for a message of a connection between a user element and a network 802 (Fig. 8A and Section 0031); and allocating, if the message is a call set-up message, one of the processors to the connection in accordance with a load-balancing algorithm based on a call-context amount per CPU load-balancing algorithm (Sections 0031-0042). Lachtar et al. fails to explain the details of the NEC (net excess capacity) properties.

Sharma et al. traffic allocation and dynamic load balancing in a multiple carrier cellular wireless communication system teaches the details of the NEC (net excess capacity). The NEC covers the details of a call-context amount per CPU load-balancing (Col. 8 lines 34-59).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate details of the NEC (net excess capacity) properties as taught by Sharma et al. into Lachtar et al. multi-carrier traffic allocation enhancements in order to maximize carrier traffic for a given blocking probability (Col. 2 lines 3-15).

Regarding claim 13, the combination including Sharma et al. teaches determining an average number of calls per processor 804 and 806 (Fig. 8A, Sections 0031, 0032 and 0041; NEC is explained further by Sharma et al. (US Pat# 6,069,871) Col. 8 lines 34-59); weighting the average number of calls per processor by a total call capacity of the processor (Sections 0031, 0032 and 0041 and Sharma et al. reference); and selecting the processor with the smallest weighted call average 850 (Fig. 8D, the highest NEC value means it has the most capacity and therefore it would have the smallest weighted call average).

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang (US Pat Appl# 2003/0072282) in view of Agin (US Pat Appl# 2002/0119784) and further in view of Hashem et al. (US Pat# 6,748,222).

Regarding claim 14, Liang's code division multiple access downlink receiver teaches monitoring for an allocation message of a connection between a user element

Art Unit: 2618

and a network (Section 0098, the mobile station will contact the base station if in its area to get information and/or use the base station for a call-set up); and wherein the set of spreading codes depends on the number of legs for soft-handover/soft-handoff of the connection (Section 0098). Liang fails to teach monitoring for a message and allocating a set of spreading codes with the same factor.

Agin's managing processing resources in a mobile radio system teaches allocating a set of spreading codes to the connection with the same spreading factor (Section 0026 and 0190).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate spreading codes to the connection with the same spreading factor as taught by Agin into Liang's set of spreading codes dependent on the number of legs for soft-handover/soft-handoff of the connection in order to save costs in adding more base stations and prevent quality being decreased (Section 0012 and 0014).

Liang and Agin both fail to clearly teach monitoring for a message.

Liang does teach about monitoring for a message but Hashem et al. will help clarify the limitation of the claim. Hashem et al. system for providing load-balanced communication teaches means for monitoring for a message of a connection between a user element and a network Step S116 (Fig. 7).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate monitoring for a message as taught by Hashem et al. into spreading codes to the connection with the

same spreading factor as taught by Liang in view of Agin set of spreading codes dependent on the number of legs for soft-handover/soft-handoff of the connection in order to diversify the load of the base station which does not effect the coverage area of the base station (Col. 2 lines 27-31).

Response to Arguments

7. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrew Wendell
Examiner
Art Unit 2618

4/11/2006



NAY MAUNG
SUPERVISORY PATENT EXAMINER